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MacRae

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(54) FURNACE-WALL COOLING BLOCK

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(57) ABSTRACT

A furnace-cooling block comprises a UNS-type C71500 schedule-40 water pipe cast inside a pour of electrolytic copper UNS-type C11000 de-oxidized during the casting process, or melted in an inert environment, to produce a high-copper approximating UNS-type C81100. A resulting fusion of the pipe to the casting is such that the differential coefficient of expansions of the two copper alloys involved does not exceed the yield strength of the casting copper during operational thermal cycling. The melting point of the copper alloy used in the pipe is such that a relatively thin-wall pipe may be used with a sand packing during the melt.

8 Claims, 3 Drawing Sheets

